

sub a⁴
What is claimed is:

1. An improvement for a selectable phase shifter incorporating an output tapped off of a resistance extending between an input signal and a phase shifted input signal, the improvement comprising a further phase shifted input signal, and the resistance extending between the phase shifted input signal to said further phase shifted input signal so as to allow an increased range of available phase shift.

2. The improved selectable phase shifter of claim 1 characterized in that said further phase shifted input signal is shifted substantially 360 degrees in respect to the input signal.

3. The improved selectable phase shifter of claim 1 characterized in that said further phase shifted input signal is derived directly from the input signal.

4. The improved selectable phase shifter of claim 1 characterized by the addition of an even further phase shifted input signal and the resistance extending between said further phase shifted input signal to said even further phase shifted input signal so as to allow for an even further range of available phase shift.

5. The improved selectable phase shifter of claim 4 characterized in that said even further phase shifted input signal is shifted 360 degrees in respect to the input signal.

6. The improved selectable phase shifter of claim 1 characterized by the addition of the resistance extending between said further phase shifted input signal to the input

signal so as to allow for an available phase shift the equivalent of 360 degrees without an additional phase shift.

7. The improved selectable phase shifter of claim 6 wherein said resistance extends in a ring counter form from the input signal through the phase shifted and further phase shifted input signals back to the input signal.

8. The improved selectable phase shifter of claim 1 characterized in that the resistance is a continuous resistive means.

9. The improved selectable phase shifter of claim 1 characterized in that the resistance is a mechanically selectable resistance.

10. The improved selectable phase shifter of claim 1 characterized in that the resistance is an electrically selectable resistance.

11. The improved selectable phase shifter of claim 1 wherein the resistance is controlled by an electrical signal.

12. The improved selectable phase shifter of claim 1 characterized in that the resistance is developed in a tapped delay line.

13. The improved selectable phase shifter of claim 1 characterized in that the phase shifted input signal is passed through a multiplier and said further phase shifted input signal is passed through a second multiplier, said multiplier and said second multiplier having a output, and means to control said multiplier and said second multiplier so as to provide for a phase shifted input signal at said common output.

14. The improved phase shifter of claim 13 characterized by the addition of control voltage means connected to said multiplier and second multiplier to control the operation of same.

15. An improvement for a selectable phase shifter incorporating an output tapped off of a resistance extending from an input signal through a phase shifted input signal to another signal, the improvement comprising the another signal being the input signal with the resistance extending 360 degrees from the input signal to the another signal.

16. An improved selectable phase shifter for an input signal, said shifter comprising means to delay the input signal to provide a delayed phase shifted input signal, an output, variable multiplier means for the input signal for providing a percentage of the input signal to said output, second variable multiplier means for said delayed phase shifted input signal for providing a percentage of said delayed phase shifted signal to said output, and means to control said variable multiplier and said second variable multiplier so as to produce a selectable phase shifted signal at said output.

add
a5